

PATENT CLAIMS

1. A drying device, which is created on the basis of many ventilation air systems arranged in a kiln compartment (1) and equipped by a heat condensation device (2) comprising a condensation unit (21) and a heating unit (22), and with at least one ventilator (25), with a kiln volume (6) as well as with at least one loading door (131) in a kiln compartment (1) where wood or other material for drying is placed with the help of carriage staking units (5) with gradual absorption of moisture content in the wood to the circulating air available in the said kiln compartment (1) and particularly in the said kiln volume (6), characterized by that at least one wall (11), which may also be arranged as a door, is equipped by a system vent (111), which in sense of functional leading of air flow for performing and monitoring the kind of drying mode in combination with an air deflector (3) placed above the kiln volume (6) in the kiln compartment (1) with the heat condensation device (2) ending in a certain distance from the another side wall (12) of the kiln compartment (1) close to the bottom (101) of the kiln compartment (1) to which also extends the said air deflector (3) close to the heat condensation device (2) equipped at least with one self-adjusting vent (31) and air deflector (3) extending over the kiln volume (6) to the top (101) of the kiln compartment (1) in a direction towards the system vent (111) and the air passage (30) between the air deflector (3) and the said system vent (111) assembled in the wall respectively the door (11) of the kiln compartment (1) formed tunnel shaped air shaft (1000) in which is placed appropriate ventilation assembly (40).

2. Drying device according to Claim 1, characterized in that both aerating and exhausting shafts (121, 122) are equipped by one and the same micro climate vent (1211) arranged adjacent to the wall (12) of the kiln compartment (1), next to which near to the air deflector (3) a heat condensation device (2) is

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arranged, so that from the kiln compartment (1) one air shaft (121) extends to the exterior atmosphere under the top (100) of the kiln compartment (1) and the second air shaft (122) which extends to the exterior above the bottom (101) of the kiln compartment (1).

3. Drying device according to Claims 1 and 2, characterized in that in the kiln volume (6) is placed at least one additional ventilation unit (7) comprising at least one ventilator (71) placed on an adjustable support (72) enabling angular dispersion of air flow with the ability of putting it in off mode if placed parallel to the side wall or in position on mode if placed unparallel.

4. Drying device according to Claim 1, characterized in that the system vent (111) is arranged the wall respectively the door (11) of the kiln compartment (1) in such a manner that in its closed position is enabled internal circulation of the air flow from the tunnel-shaped air shaft (1000) in the area between the top (100) of the kiln compartment (1) and the air deflector (3) passing through the air passage (30) between the air deflector (3) and the wall respectively the door (11) into the kiln volume (6) in a direction towards the self adjustable vent (31) and under the air deflector (3) towards the heat condensation unit (2), since in the case when the system vent (111) is opened the air flow is passing from the tunnel shaped air shaft (1000) through at least two gaps formed by opening the system vent (111) the air is blown out of kiln compartment (1) in open space on the upper side through at least one gap and simultaneously the fresh air is sucked from outside directly into the kiln volume (6) through at least one lower gap.

5. Drying device according to Claim 1, characterized in that at least some of ventilators (41, 42, 43, 44), which are arranged in the tunnel-shaped air shaft (1000) available between the air deflector (3) and the top (100) of the kiln compartment (1), are equipped by appropriate heating units (430, 440) provided for complementary heating the air in the tunnel shaped air shaft (1000).

6. Drying device according to Claim 1, characterized in that the carriage staking units (5) intended for displacement of drying material, particularly wood, is equipped not only with vertical distance elements (51), but also with horizontal distance elements (52).

7. Drying device according to Claim 6, characterized in that at least some of the carriage staking units (5) are equipped by wheels (50) ensuring their mobility.

8. Drying device according to Claim 6 and/or 7, characterized in that the carriage staking units (5) can be put one on each other by means of the vertical distance elements (51).

9. Drying device according to Claim 1, characterized in that the heat condensation unit (2) comprises at least a condensation unit (21) and a heating unit (22).

10. Drying device according to Claim 9, characterized in that the heat condensation device (2) in its housing (20), which is equipped with an escape pipe (201) for leading out the condensate, near to the condensation unit (21), the heating unit (22), a the compresor (23) and a throttle (24), which are bound to appropriate circuit, also comprises a ventilator (25).

11. Drying device according to Claim 1, characterized in that the kiln compartment (1) is constructed on the base of a standard container fulfilling dimensional standards for international container transports.

12. Drying device according to Claim 1, characterized in that the vent (31) of the air deflector (3) is self-adjustable.

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13. Drying device according to Claim 1, characterized in that in the interior of the kiln compartment (1) a radiation device (8) is placed close to the venting and exhausting shafts (121,122).
14. Drying device according to Claim 13, characterized in that the radiation device (8) is preferably an emitter of ultra-violet rays.
15. Drying device according to Claim 1, characterized in that at least two magnets (9) are arranged in the kiln compartment (1).
16. Drying device according to Claim 15, characterized in that at least two permanent-magnets (9) are arranged in the interior of the kiln compartment (1).
17. Drying device according to Claim 16, characterized in that in the interior of the kiln compartment (1) a bipolar magnetic field is available by means of at least two permanent-magnets are arranged adjacent to the exhausting and aerating shafts (121, 122) and the air deflector (3).
18. Drying device according to Claim 6, characterized in that the distance between neighbouring vertical distant elements (51) - observed in a horizontal direction - are always shorter than side vertical supports (52).
19. Drying device according to Claim 6 and 18, characterized in that the staking unit (5) aside vertical distance elements (51) predicted use of horizontal distance elements (51') for ensuring proper air gap respectively certain distance between wooden elements put one on each other in a vertical direction between vertical distance elements (51).
20. Drying device according to Claims 1 and 2, characterized in considering microclimate vent (1211) functioning in combination with air shafts (121,

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122) which is in case of increased moisture value activated on the top of kiln compartment (1) and is connected with the kiln volume (6) through the air shaft (122), where air is blown out, but by the help of air shaft (121) in case of pressure differences fresh outside air is sucked into the area (10'), but when the microclimate vent (1211) is unactivated is the drying process isolated from external atmosphere air and internal air circulation is generated in the kiln compartment (1).

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